

CHAPTER 3

Environmental Setting, Impacts, and Mitigation Measures

This Chapter includes seven sub-chapters that evaluate the potential environmental impacts of the Program as they relate to: 1) Land Use and Agriculture (Chapter 3.1); 2) Geomorphology, Hydrology, and Water Quality (Chapter 3.2); 3) Biological Resources: Fisheries and Aquatic Habitat (Chapter 3.3); 4) Biological Resources: Botany, Wildlife, and Wetlands (Chapter 3.4); 5) Cultural Resources (Chapter 3.5); 6) Hazards and Hazardous Materials (Chapter 3.6); and 7) Public Utilities, Service Systems, and Energy (Chapter 3.7). As discussed in Chapter 1, the California Department of Fish and Game (CDFG) in its Initial Study determined that the effects of the Shasta River Watershed-wide Permitting Program (Program) on the following resources would be less than significant, and therefore are not analyzed further in this Draft Environmental Impact Report (EIR): 1) aesthetics; 2) air quality; 3) geology, soils, and seismicity; 4) mineral resources; 5) noise; 6) population and housing; 7) public services; 8) recreation; and 9) transportation and traffic.

Each sub-chapter includes a focused discussion of the environmental setting pertinent to the resource the sub-chapter addresses (e.g., Land Use and Agriculture); a description of the criteria used to determine whether a particular impact could be significant; the environmental impacts the Covered Activities could have on the resource; a determination of whether they will be significant based on the significance criteria; and where the impact is identified as potentially significant, a description of feasible mitigation measure(s) that will reduce the impact to less than significant. The mitigation measures in the subsequent sub-chapters are either part of the Program, and therefore included in the Master List of Terms and Conditions (MLTC) and Incidental Take Permit (ITP), or are identified in the Draft EIR. Mitigation measures identified in this Draft EIR will be incorporated into the Program by adding them to the MLTC and/or ITP, unless otherwise indicated. The social and economic effects of the Program are discussed in the context of its potential to induce changes in land use.

The environmental impacts identified in the sub-chapters are numbered sequentially beginning with the sub-chapter number. For example, the first impact in Chapter 3.3 (Biological Resources: Fisheries and Aquatic Habitat) is impact number 3.3-1, the second impact is 3.3-2, and so forth. Each mitigation measure is numbered to correspond with the impact it addresses. Hence, the mitigation measures to address Impacts 3.3-1 and 3.3-2 would be Mitigation Measures 3.3-1 and 3.3-2, respectively.

Environmental Setting

In order to evaluate the potential environmental impacts of approving and implementing the Program, this Chapter describes the physical environmental conditions in the Program Area as they existed at the time CDFG deemed Shasta Valley Resource Conservation District's (SVRCD's) ITP application complete on April 28, 2005. It is against this baseline which the potential environmental impacts of approving and implementing the Program were measured. This approach is consistent with CDFG's California Endangered Species Act (CESA) implementing regulations which is a certified regulatory program under California Environmental Quality Act (CEQA) (CEQA *Guidelines*, § 15251, subd. (o); California Code of Regulations, title 14, § 783.5.) Under those regulations, CDFG considers an ITP application it has deemed complete to be the project description for purposes of its required lead agency review under CEQA. This approach is also consistent with CEQA *Guidelines*, § 15125, which acknowledges the importance of identifying a baseline that best ensures meaningful environmental review. Important to the evaluation described above is an understanding of the Program's regional setting. The regional setting is described below.

Some of the activities the Program covers are historic, ongoing activities that over time have caused and will continue to cause environmental impacts within the Program Area, including, for example, take of coho salmon (*Oncorhynchus kisutch*). These activities and their impacts are part of the baseline and are expected to continue regardless of the Program; that is, they will not be caused by the Program. Chapters 3.1–3.7 describe these ongoing, historic activities and their impacts as part of their discussion on the existing environmental setting pertinent to the resource they address.

As CEQA requires, this Draft EIR analyzes the physical, project-related changes to the baseline the Program could cause, and for those changes that are determined to be significant, identifies feasible mitigation measures to reduce those impacts to less than significant. As mentioned above, such changes would not include the environmental impacts caused by historic, ongoing activities that are part of the baseline. As a result, under CEQA, mitigation for those activities will not be required. Nonetheless, the Program is expected to reduce the environmental impacts caused by historic, ongoing activities, and thereby improve existing environmental conditions in the Program Area compared to the baseline. The Program is expected to improve environmental conditions because under the Program, the Streambed Alteration Agreements (SAAs) and sub-permits CDFG will be issuing for these historic, ongoing activities will require Agricultural Operators to incorporate into those activities measures to protect fish and wildlife resources and to avoid, minimize, and fully mitigate any take of coho salmon that might occur incidental to those activities.

In summary, mitigation for these ongoing historic baseline activities will not be required pursuant to CEQA because the Program will not result in an increase in environmental impacts from these activities; rather, the mitigation for impacts to fish and wildlife resources from these activities will be identified in the SAA, ITP and/or sub-permit participants must obtain as a condition of participating in the Program.

Regional Setting

The Program Area analyzed in this Draft EIR is the Shasta River watershed, including the Shasta River and its tributaries, in Siskiyou County, as shown in **Figure 2-1** in Chapter 2 (Program Area). The locations of the site-specific mitigation projects specified in the ITP are shown in **Figure 2-2**.

The Shasta River is one of four main tributaries to the Klamath River in California, the others being the Trinity, Salmon, and Scott Rivers. The Klamath River drains a portion of the Cascade Province to the east and a portion of the Klamath Province to the west. The Shasta River flows roughly northwest, from its tributary streams on the northern flank of Mount Shasta and Mount Eddy, through the Shasta Valley, then through a bedrock canyon to its confluence with the Klamath River. Major tributaries to the Shasta River include Parks Creek, Big Springs Creek, Little Shasta River, and Yreka Creek.

The entire watershed, which covers about 792 square miles, is within Siskiyou County. There are several towns and cities in the watershed, including Weed, Yreka, Gazelle, Edgewood, Montague, and Grenada. Dwinnell Dam and Lake Shastina are major features located in the Shasta Valley. Interstate 5 runs through the Shasta Valley and is the main north-south transportation corridor. State Routes 3, 263, and 99, and US 97 also run through the watershed.

Most of the lands where the Covered Activities have been occurring or will occur are in the lowland, agricultural areas of the Shasta Valley. Field crops, including alfalfa and other hay crops, and stock-raising are the principal agricultural pursuits. Water rights in the Shasta River watershed are subject to the Shasta River Decree. The Department of Water Resources (DWR) provides watermastering services.

Additional information on the environmental setting, particularly regarding coho salmon habitat, is included in Chapter 3.2, Geomorphology, Hydrology, and Water Quality, and Chapter 3.3, Biological Resources: Fisheries and Aquatic Habitat. The Shasta River watershed's geology is described in the Geology section of the Initial Study (Appendix D).

Physical Changes Likely to Result from Program

The environmental impact analysis in the following chapters relies on several assumptions regarding the likely physical effects of Program implementation, relative to existing conditions. These include the following:

- Program implementation will result in less agricultural water being diverted, which in turn will result in increased streamflows in tributary streams and the mainstem Shasta River, particularly during summer and fall low-flow periods and during drought years;
- Requirements for bypass flows, fish passage, and fish screens at diversions will reduce mortality of coho salmon and other fish species at and downstream of diversions;

- Remediation of artificial barriers to fish passage, some of which have been in place for many years, will enable coho salmon and other anadromous fish to reoccupy historic spawning and rearing habitat that is currently inaccessible to them;
- Conditions placed on Covered Activities will reduce pollutant loads to streams, including heat gain, sediment, nutrients, and hazardous substances;
- Design requirements for diversion structures and other instream structures will improve geomorphic function of streams, including sediment transport;
- Conditions placed on grazing and vehicle access within riparian areas and at stream crossings, and required riparian fencing, revegetation, and stream restoration will result in improved riparian conditions and stream habitat;
- The required education program (ITP General Condition a) will likely result in a greater understanding among Agricultural Operators of the habitat needs and vulnerabilities of coho salmon and other aquatic species, which may encourage them to take additional measures not specified in the Program to protect and enhance these resources;¹
- Conditions placed on ground-disturbing activities will reduce the potential for damage to or destruction of cultural and historical resources;
- Monitoring and reporting requirements, including the SVRCD ITP Monitoring and Adaptive Management Plan (ITP Attachment 3), will provide an opportunity to improve Program effectiveness over time.

¹ Such additional measures are considered speculative and not used as a basis for the environmental impact analysis in this Draft EIR.